



**COCKPIT/CREW RESOURCE MANAGEMENT
TRAINING PROGRAM**

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AFI 11-290, 11 April 2001, is supplemented as follows: This supplement provides information and instructions for the PACAF Cockpit/Crew Resource Management (CRM) Program. This supplement does not apply to Air National Guard (ANG) and Air Force Reserve Command (AFRC) units and members. Send comments and suggested improvements to this supplement on AF Form 847, **Recommendation for Change of Publication**, through channels, to PACAF/DOIT, 25 E St. Suite I-232, Hickam AFB, HI 96853.

1. At its simplest, CRM is "things aircrews do." Successful CRM training is designed to enable crews to manage resources and tasks and to improve mission performance. Quality skill practice and training leading to maximum operational effectiveness and combat capability is the central theme of PACAF's CRM training program. Five different CRM courses (outlined in paragraph 8 of AFI 11-290, as supplemented) are the keystones of an integrated program that provides operationally oriented repetitive practice in the use of CRM skills. Each course is built around a CRM skill practice opportunity that motivates the combat crewmember to use a core CRM curriculum skill and provides feedback on the use of that skill.

2.1. HQ PACAF Guidance:

2.1.1. PACAF aircrews, mission crewmembers, Unmanned Aerial Vehicle (UAV) crewmembers and aircrew training contract instructor personnel are required to take CRM continuation training (CT) every 2 years (biennial). CT training will be required by the end of the month, 2 years after receiving previous CRM training. Aircrews taking the instructor CRM course will receive credit for CT training requirements.

2.1.1.1. (Added) PACAF aircrews are identified as any pilot, navigator, weapon system officer, flight engineer, and mission crew officer and enlisted specialist assigned to PACAF and assigned flight duties on a PACAF weapon system. This includes all staff MAJCOM, numbered AF, and wing aircrew members who fly as part of their official duties.

2.1.1.2. (Added) CRM training will be tracked via the Air Force Operational Resource Management System (AFORMS). Aircrew members who do not accomplish CRM training within a 2-year period will be grounded from flying duties until training is accomplished or a waiver is granted for the training. Waivers to CRM training will be at the operations group commander level.

2.1.1.3. (Added) Operations group standardization/evaluation (STAN/EVAL) and/or training offices will determine if new aircrew member's previous CRM training fulfills PACAF CRM training requirements. Aircrews must present documentation of completed CRM training (by AFORMS for example) to wing STAN/EVAL and/or Training Section who will determine the authorized methods for verifying CRM training, with squadron STAN/EVAL and/or Training checking individual records during squadron in-processing. Aircrews and crewmembers can substitute CRM training received from other MAJCOMs as meeting their biennial PACAF CRM training requirement.

2.1.1.4. (Added) All CAF aircrews receive CRM training through ACC/TRSS CRM contractors. All C-130 aircrews except loadmasters receive CRM training from AETC contractors during simulator training at Little Rock AFB, AR. C-130 Loadmasters receive their CRM training from AETC certified CRM facilitators who have completed the CRM Facilitator's Course at Little Rock AFB. All KC-135 crewmembers receive CRM training from AETC contractors during simulator training. AETC CRM training satisfies PACAF CRM training requirements.

2.1.1.5. (Added) Unit instructors and evaluators are encouraged to complete an AF Form 4031, CRM Skill Criteria Training/Evaluation Form, for each simulator or flying sortie that they perform instructor duties. Completed forms will be turned into the unit CRM program coordinator who will then deliver the forms to the contractor for analysis.

2.3.4. (Added) PACAF's CRM training program will be data driven, skills-based, and operationally integrated to improve the daily mission performance of PACAF combat crewmembers.

3. Operational control of PACAF's CRM program will rest in PACAF/DOT. Command policy and guidance related to CRM content and delivery will rest within HQ PACAF/DO staff operational directorates (DOT, and DOY).

5.1. PACAF program manager resides in PACAF/DOT, DSN 449-8983 and is the PACAF CRM Quality Assurance Evaluator (QAE).

5.1.10. (Added) Specific responsibilities inside PACAF are:

5.1.10.1. (Added) **HQ PACAF/DO Functional Managers.** HQ PACAF/DO functional managers are responsible for assisting in CRM courseware review as required. HQ PACAF/DOT must designate a CRM point of contact responsible for interfacing with the PACAF program manager on matters related to command policy and guidance.

5.1.10.2. (Added) **HQ PACAF/SEF.** HQ PACAF/SEF will work with other MAJCOM safety offices (AMC/SEF, ACC/SEF) to provide mishap information to CRM contractor personnel for case study and courseware development.

5.1.10.3. (Added) **Operations Groups.** Operations group commanders (OG/CC) will appoint at least two program coordinators (PC), Primary and Alternate. The primary PC should be an experienced aircrew member in a primary weapon system of their wing/unit.

5.1.10.3.1. (Added) PCs are responsible to the PACAF QAE/program manager assigned to HQ PACAF/DOT, Hickam AFB HI, concerning matters related to CRM training.

5.1.10.3.2. (Added) PCs will provide oversight to the unit's CRM program to include updating the OG/CC on CRM feedback and command policy and guidance.

5.1.10.4. PCs will assist contractor personnel in research of STAN/EVAL trends. CRM contractors can be granted access to Standardization and Evaluations Boards (SEB) at unit discretion. CRM contractor personnel will be included in the distribution of meeting minutes from all SEBs.

5.1.10.5. PACAF/DOT QAE will visit PACAF location where CRM training is conducted as required. The purpose of the visits is to observe contract performance. The PACAF QAE will ensure contractor conducts training per the Quality Assurance Surveillance Plan (QASP) Annual Inspection Checklist. PCs will report all discrepancies to the chief QAE immediately.

5.1.10.6. (Added) **Standardization Evaluation.** CRM skill evaluation criteria will be included in AFI 11-2 MDS-Specific V2s.

5.1.10.7. (Added) **CRM Class Size.** CRM continuation training (CT) class sizes will have at least 8 aircrew members but no more than 20. CRM CT classes that do not have the minimum required number of participants will be cancelled and aircrew members will have to be rescheduled for training at a later date. Unit schedulers must notify the contractor of any scheduling changes at least 48 hours in advance.

5.1.10.8. (Added) **Flying Squadrons.** Flying squadron commanders will appoint a CRM representative to oversee the squadron CRM program and advise the commander as required. The representative will monitor and encourage participation in Unit Quarterly Training (**8.3.2.1. (Added)** and **8.3.2.1.1. (Added)**), Individual Quarterly Training (**8.3.2.1.2. (Added)**) and Daily CRM Training Objectives (**8.3.2.2. (Added)**). The representative will periodically examine mission Grade Sheets to determine positive/negative trends in unit application of CRM skills. Each squadron CRM representative will also coordinate with the OG/CC CRM PC's in all aspects of the unit CRM program.

8. PACAF CRM training curriculum is designed to build upon CRM training learned at the AETC Undergraduate Pilot Training/Undergraduate Navigator Training (UPT/UNT) and FTU levels.

8.1. **Flight and Simulator Grade Sheets.** Aircrew flight and simulator grade sheets will contain CRM grading items as specified in **Table 8.1. (Added)** below. Instructors may use the CRM skill behaviors listed in AF Form 4031 or the examples in **Table 8.2. (Added)** as a debriefing guide.

Table 8.1. (Added) Aircrew Grade Sheet Requirements.

ITEM	Grade Sheet	CRM Grading Items
1	Flight and Simulator	Mission Planning Situational Awareness, Communications, Risk Management/Decision Making, Task Management, Debrief
2	Formation or Tactical Employment	Flight Integrity
3	Crew Aircraft	Crew Coordination

Table 8.2. (Added) Instructor Brief/Debrief Guide.

ITEM	CRM Skill	Positive Factors	Negative Factors
1	Mission Planning Brief	Organized, clearly assesses and defines mission, environment, aircraft, and situation; covers contingencies; checks understanding.	Neglects, rushed, incomplete, vague, ignores.
2	Situational Awareness	Anticipates, monitors, prevents loss recognizes own/other loss, regains.	Disorientated, confused, lost, fixated.
3	Crew Coordination / Flight Integrity	Leads, identifies roles and expectations, sets tone, respects, encourages, assertive.	Judges, ridicules, overreacts, ignores, imposes, accepts error.
4	Communication	Clear, concise, listens, interprets, efficient, gets or gives constructive feedback.	Interrupts, withholds, discounts, ambiguous, mumbles.
5	Task Management	Prioritizes, assigns tasks, creates time, plans, delegates, checklist discipline, system knowledge.	Rushed, overloaded, complacent, misprioritizes.
6	Risk Management / Decision Making	Identifies and assesses problems, explores solutions, makes appropriate decisions, involves and informs flight members/crew.	Avoids, delays, vacillates, argues, fails to consider consequences of decision.
7	Debrief	Objective, thorough feedback, non-threatening, recaps key points, solicits inputs, provided corrective actions.	Rushed, incomplete, vague, blames, ignores.

8.3. PACAF aircrew members will receive MDS-specific continuation training at least once every 2 years. These courses will build on FTU training and will emphasize skills needed for specific weapons systems and mission requirements. The course begins with an overview of the six core CRM skills and the associated observable behaviors that apply to the MDS. Data will be collected to determine which of the observable behaviors within the six core CRM curriculum skills most apply to the unit MDS and its mission. Following the overview, two of the six core skills will be covered in depth. Each skill will be trained

using the information, demonstration, practice, and feedback instructional strategies. Skill practice opportunities will include MDS and mission-specific exercises, case studies, group interaction and skill assessment techniques. Realistic exercise and practice scenarios, designed to require specific actions by the student, will be based on the most current incidents and combat or operational case studies available for that MDS. These exercises are used by the student to practice the effective use of CRM skills and by the instructors to validate and assess the crewmember's understanding of the skill.

8.3.2.1. (Added) **Quarterly Training (15 Minutes).** Additional CRM practice opportunities will be provided quarterly through Web/LAN-based presentations developed for aircrew member use to avoid skill degradation. Aircrew members can use these presentations during unit training days, safety days, or any type of squadron meeting where CRM would be a useful topic of discussion. The Web/LAN training can be conducted in a group setting or individually. Presentations will include all materials required to present the topic of interest. A different CRM skill will be emphasized each quarter. Quarterly training is not mandatory but is highly encouraged to augment the biennial CRM continuation training.

8.3.2.1.1. (Added) **Unit Quarterly Training.** Unit level presentations will be designed for flight or squadron-wide training. This training is intended for use during flight meetings, safety meetings, IP/flight lead/mission commander meetings, or any other appropriate unit activity. Downloaded from the Internet or local base LAN, each module contains approximately 5 minutes of academics and 10 minutes of CRM skills practice using group exercise and/or case study evaluation. Each downloadable file will contain all of the training materials required to conduct the training, including an instructor guide. It will be designed to be compatible with unit audio/visual training devices.

8.3.2.1.2. (Added) **Individual Quarterly Training.** To provide opportunity for training in all six CRM skills and to provide flexibility to high operations tempo units, an individual 15-minute Web/LAN-based interactive computer aided instruction module will be provided. These modules will be based on the unit quarterly training and are designed for individuals who could not attend the unit level course. The module substitutes interactive courseware for group exercises to ensure maximum training and participation for the user. The module may be accessed through the World Wide Web or the base LAN.

8.3.2.2. (Added) **Daily (CRM) Training Objectives.** Daily (or as scheduled to fly) CRM practice will be provided through the use of short training scenario entitled Daily Training Objectives (DTO). The DTO will provide a short (2-3 minutes) scenario, which demonstrates the effective or ineffective use of a specific CRM behavior. This will be followed by a "what if" or "what would you do" question. Each DTO will illustrate one of the specific observable behaviors for the core skill covered that quarter in the Web/LAN-based training. Each DTO provides a specific CRM mission objective for that flight, to be discussed in the debrief and provides a daily standard against which combat crewmembers can compare mission performance. Aircrew members may use the DTO in conjunction with a flying/simulator mission or may review the topic on an individual basis. Use of DTO's is not mandatory but highly encouraged.

8.3.2.3. (Added) **Weapon System Trainer (WST) and Aircraft Sorties.** CRM skills should be discussed as part of all training event pre-briefs and debriefs. Positive and negative CRM skill application observations will be used to generate post flight discussion. CRM skills will be debriefed and critiqued on all training aircraft and simulator sorties.

8.4. Flight training instructors are key to a successful CRM training program. CRM Instructor training courses are designed to prepare the instructor to recognize, analyze, and evaluate CRM principles and document CRM performance in the FTU and operational unit. Critical to the success of such a course is the continuous and daily involvement of the instructor/evaluator at the unit level. Instructors and evalua-

tors will be provided with the tools and courseware instruction to allow them to integrate CRM principles into the unit's routine, from briefings to flight, from simulator training to safety meetings.

8.4.1. Flight Instructor Training Objectives. CRM Instructor Training Course will provide proficiency in three specific areas:

8.4.1.1. (Added) Observing, assessing, and documenting CRM skills used by aircrew members in a mission environment.

8.4.1.2. (Added) Provide specific, meaningful, and standardized feedback to aircrews regarding their CRM skills and overall mission effectiveness.

8.4.1.3. (Added) Web/LAN-based training applications, including the DTOs.

8.4.2. Instructor Training Requirements. All instructors will complete CRM instructor training prior to assuming duties as an instructor. Aircrew members can take Instructor CRM training prior to entering upgrade training. Instructor CRM training is a one time requirement and must be included in all instructor upgrade syllabi as a 2 hour block of instruction. If contractor training is not available during the period of instructor upgrade, waivers can be requested IAW **2.1.1.3. (Added)** above until the next available training date but no later than one year after upgrade. Aircrews taking the instructor CRM course will receive credit for CT training requirements.

8.4.2.1. (Added) **Stop Gap CRM Training.** Unit Aerospace Physiologists may provide CRM stop gap training (CRM continuation training courses only) in lieu of contracted services if the following guidelines have been met:

8.4.2.1.1. (Added) Contracted services are unavailable in a timely matter necessary to ensure compliance with this regulation.

8.4.2.1.2. (Added) The Physiologist must be a certified CRM facilitator IAW 11-403.

8.4.2.1.3. (Added) Stop gap training will be documented and reports submitted monthly to ACC/TRSS for consolidation with contractor provided services. Reports will include dates, unit of assignment and number of students trained.

9.1. (Added) All aircrew members are evaluated on CRM during all periodic flight evaluations. Unit Stan/Evals will consolidate CRM results and note any trends and forward to the unit CRM PC. The unit CRM PC will forward consolidated trends to the PACAF CRM Program Manager located in PACAF/DOT as required, but at least annually.

9.2. (Added) Contract must identify all data that the contractor must deliver to the government, to include background data. IAW AFI 37-138, *Records Disposition--Procedures and Responsibilities*; and public law, contractors will manage all data created for government use or legally controlled by the government in accordance with the Air Force records management procedures, AFI 37-138; AFMAN 37-123, *Management of Records*; and AFMAN 37-139, *Records Disposition Schedule*. This includes electronic records along with any technical documentation that allows the government to use the data. Protection of government data will be in accordance with DoD 5400.7-R_AF SUP 1_ACC SUP 1, *DoD Freedom of Information Act Program*, Chapter 4.

9.3. (Added) Contract statement of work or performance work statements must include the following statement: "IAW AFI 37-138 and public law, contractors will manage all data created or used for the government in accordance with the Air Force records management procedures, AFI 37-138, AFMAN 37-123, and AFMAN 37-139." This includes all electronic records and technical documentation that will allow the

government to use the data. Upon completion or termination of the contract, all material will be turned over to the government. Protection of government data will be in accordance with DoD 5400.7-R_AF SUP 1."

References

AFMAN 37-123, *Management of Records*

AFI 37-138, *Records Disposition--Procedures and Responsibilities*

AFMAN 37-139, *Records Disposition Schedule*

DoD 5400.7-R_AF SUP 1, *DoD Freedom of Information Act Program*

Abbreviations and Acronyms

AFORMS—Air Force Operational Resource Management System

AFSC—Air Force Safety Center

CT—Continuation Training

DTO—Daily Training Objective

FTU—Formal Training Unit

LAN—Local Area Network

MDS—Mission Design Series

OG/CC—Operations Group Commander

PC—Program Coordinators

QAE—Quality Assurance Evaluator

QASP—Quality Assurance Surveillance Plan

STAN/EVAL—Standardization and Evaluation

SEB—Standardization and Evaluation Board

TX—Transition Course

UAV—Unmanned Aerial Vehicle

UPT/UNT—Undergraduate Pilot Training/Undergraduate Navigator Training

VTC—Video Teleconference

WST—Weapon System Trainer

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